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ABSTRACT

Progress in the second 6 months of a program development model for learning disabled (LD) and emotionally disturbed (ED) adolescents is reported. The program is designed to teach ED and LD children necessary work skills so that they can become productive members of society. Three methods are under investigation: (1) use of audio/visual resources and materials, (2) use of simulated work experiences, and (3) use of community resources to expose students to career fields. Results have shown that the third method is not appropriate for this population. The self concept scores of Ss who received this treatment did not improve whereas scores of Ss receiving the other two treatments did show gains. A positive self concept was identified as an absolute prerequisite to success in life. Among recommendations were that salaries should be attractive and that the project should begin small and grow based on experience. (Extensive data analysis charts and supporting materials are included.) (PHR)

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A MODEL PROGRAM FOR TEENAGE YOUTH

First Year Evaluation of Knowledge Development

By

Richard C. Pooley, Ph. D.

Prepared for

The James Barry-Robinson Institute, Norfolk, Virginia
in connection with Contractional Agreement #Y-79-11
with the Governor's Manpower Services Council,
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Variable Listing for this Study

Variable Designation		Variable Name
Var 1		Subject Identification Number
Var 2		Piers-Harris Self Concept Total Score
Var 3		Piers-Harris (PH) Factor I Behavior
Var 4		PH Factor II Intellectual and School Status
Var 5		PH Factor III Physical Appearance and Attributes
Var 6		PH Factor IV Anxiety
Var 7		PH Factor V Popularity
Var 8		PH Factor VI Happiness and Satisfaction
Var 9	N/A	Group Membership in Curricular Method: Outside School (N = 0 in this study)
Var 10		Group 1 Curricular Method: Audio-Visual (N = 7)
Var 11		Group 2 Curricular Method: Group Process (N = 6)
Var 12		Group 3 Curricular Method: Community (N = 6)
Var 13		Placement: School Only (N = 1)
Var 14		Placement: School & Residence (N = 18)
Var 15	N/A	Placement: Residence Only (N = 0 in this study)
Var 16		Career Maturity Inventory (CMI) Attitude Scale Total Score
Var 17		CMI Sub-Scale 1: Decisiveness in Career Decision Making
Var 18		CMI Sub-Scale 2: Involvement in Career Decision Making
Var 19		CMI Sub-Scale 3: Independence in Career Decision Making
Var 20		CMI Sub-Scale 4: Orientation to Career Decision Making
Var 21		CMI Sub-Scale 5: Compromise in Career Decision Making

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Staffing is the single greatest determinant of project success and the staff of the James Barry-Robinson Institute are to be acknowledged for their diligence in carrying out the project described in this evaluation. The entire staff is regarded by this evaluator as among the best to be found in the human service enterprise.

My friend and colleague, Dr. William G. Cunningham, of Old Dominion University deserves credit for his excellent management of the data while conducting the statistical analysis. He is responsible for the competent reporting described in Chapter IV as well.

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Educational Consultant

CHAPTER I

Introduction to a Model Program for Teenage Youth

This report documents the progress made in the second six months of the knowledge development effort of Contract #Y-79-11 between the Governor's Manpower Services Council, Richmond, Virginia, and the James Barry-Robinson Institute (J.B.R.I.). The report on the first six months of operation (Pooley, 1979) established that the assumptions required to conduct the proposed analyses are met. This report will give the results of those analyses. It is appropriate to restate the goals, objectives, assumptions, and procedures of the proposed research here.

I Goals: Learning disabled and emotionally disturbed adolescents often find themselves so far behind their "normal" counterparts in academic achievements that the prospect of finishing high school appears hopeless. If action is not taken to provide these young people with a pathway to a reasonable career they are probably doomed to a life of despair, crime, or cronic welfare. It is desirable to discover the ways and means that such handicapped youths can become competent to enter and

sustain a career and otherwise solve the problems of living so that they may become productive adults.

II Objectives: During the first year of this project, we intend to test the effects of three curricular methods on the development of self-concept and career maturity. Three variations in instructional methods and materials are presented to three discrete groups of subjects.

1. The treatment for Group 1 consists of instructional methods based largely on audio-visual resources and materials.
2. The treatment for Group 2 involves methods based largely on group process. Experiences are designed to imitate the world of work realities. Techniques such as role-play and behavioral rehearsal are the mainstay of instruction.
3. The treatment for Group 3 is structured to cause the student to become exposed to career fields through direct involvement with community resources relevant to the world of work (i.e., applying for a job).

Each curricular method is structured to be at a higher level of abstraction than the next one. Audio-visual training is further removed from reality than behavior rehearsal for example.

Behavior rehearsal is one step removed from actually applying for a job. We will test this continuum of abstraction to see if one or more methods educate more efficiently than the other(s) for the target population of learning disabled (LD) and emotionally distrubed (ED) adolescent boys. We will also test to see if sub-scales of the self-concept measure are usable predictors of career maturity. This knowledge will be useful in decision-making regarding the allocation of resources to educational diagnosis and curricular design in future work.

III Assumptions: The handicapping conditions (i.e., LD and ED) suffered by the target population are believed to produce disturbing behaviors which interfere with the young persons' positive development, education, and eventual employment. It becomes necessary to remove the interference and replace it with skills that are characterized with competence to solve the problems of living in general and to become productive and employable in particular. It is also believed that this task can be accomplished using educational methods of treatment. The construct of self-concept is believed to be a powerful predictor of success. In this context, we define self-concept to mean that one believes his accomplishments are of value. We define success as being self sufficient and relatively content with one's station in life.

V Procedures: There are two methods of knowledge development upon which this report is based. The first involves the interpretation of data that are analyzed according to several statistical procedures. The second method involves the deliberate development of tacit knowledge which is defined as interpreting experience that is somehow understood but not normally articulated. This method derives from the assumption that we may learn more from our experience if we formalize our experience into manageable symbols (i.e., words, models) that can be reorganized, observed, and interpreted. The results of these methods of inquiry are summarized in the next chapter and are presented in detail in subsequent chapters.

CHAPTER II

Summary of Results

Computer Analysis of Pre and Post Test Data on Self Concept and Career Maturity

1. A one-way analysis of variance was carried out on each of 13 scales by curricular group membership. Seven scales of the Piers-Harris Childrens Self Concept Scale (Piers, 1969) and the Career Maturity Inventory Attitude Scale (Crites, 1978). These instruments are described in detail in the six month report on this project (Pooley, 1979).

2. Descriptive statistics were computed on each variable as well.

3. Correlation coefficients were computed for each variable included in the study. Nineteen variables were included in this interpretation: Piers-Harris Self Concept (PH = 7 variables), Career Maturity Attitude Scale (CMI = 6 variables), Curricular Group membership (Group = 3 variables), and Days in Program (Days = 1 variable).

4. Multiple regression analysis using PH sub-scales to explain variation in CMI sub-scales. The data on six multiple regressions analyses are reported.

Interpretation of the Results

The results strongly suggest that the community involvement curricular method of Group 3 is not appropriate for the LD and ED students studied. Group 3 gain on self-concept was the lowest of the three groups and they scored lowest on post-test on 3 of 5 CMI scales: Decisiveness, Involvement, and Compromise. Opinions from the tacit domain corroborate this finding. Loosely speaking, it is likely that the ED and LD youth do not have the prerequisite skills to interact effectively with reality in general, and career tasks in particular. It has been observed on most, if not all occasions, that when the youth perceives himself as approaching the time to be terminated from the program he will act out in such a way to "prove" to the staff that he is not ready to enter the "real world". At the same time, these youths hold naive and over-simplified judgements of what is required to enter a career field. This notion will be elaborated upon in the remaining chapters of this report.

A second finding that is worth remark is the power that the Piers-Harris Self Concept Scale has in predicting career maturity attitudes. The Piers-Harris Sub-Scale titled "Factor III: Physical Appearance and Attributes" was the most powerful predictor of CMI scales in this study. PH Factor III (Variable 5 in this study) was the best predictor of 4 out of 5 CMI Attitude Scales. They are: Involvement, Independence, Orientation, and Compromise. The best predictor of the remaining CMI Sub-Scale, "Decisiveness", was the PH Factor II (Variable 9 in this study) titled "Intellectual and School Status".

This outcome allows us to suggest that it is reasonable to say that the Piers-Harris Self Concept measure explains a significant amount of the variation in the Career Maturity Inventory. This suggests that the diagnosis battery of instruments may be reduced to a composite of PH and CMI sub-scales to shorten the protocol and save time and money during the diagnosis procedure. A closer investigation of this possibility is recommended.

Next, consider the curricular method groupings. (Group 1 = Audio-Visual, Group 2 = Group Process, and Group 3 = Community Experience.) Although most of the analyses of variance were

unremarkable, there was one that approached significance. The test of the three groups with respect to the Career Maturity Attitude Total Score produced an F probability of .11. Although reasonable people may disagree on the significance of this probability, the pattern of observations is worth describing. The pre-test mean score for all students on the CMI is 22.7 with ED students scoring higher as a group than LD students (ED $\bar{X}$ = 25.7, LD $\bar{X}$ = 19.70). The post-test scores are as follows: Group 1 $\bar{X}$ = 29.7; Group 2 $\bar{X}$ = 29.0; and Group 3 $\bar{X}$ = 21.7. While the AV Group and the Group Process Group gained 7 points and 6.3 CMI points respectively, the Community Group lost 1 CMI point on the average.

A similar pattern of pre and post scores is seen in the Piers-Harris Total Scores as shown in Table 1.

Table 1

Piers-Harris Total Scores By Group

	Pre-Test			Post-Test		
	N	$\bar{X}$	S.D.	N	$\bar{X}$	S.D.
Group 1	9	51	13.8	7	54	4.3
Group 2	7	53	11.8	6	55	12.3
Group 3	7	53	12.8	6	53	13.3

Groups 1 and 2 gained in self-concept scores whereas Group 3 did not. The standard deviation of Group 1 post-test shows that this instruction resulted in a more homogeneous group than did the others with respect to the self-concept measure. The Group 1 students are less dispersed from their mean than are the other two groups. This may be interpreted to mean that Group 1 instruction produces students that are more like one another regarding self-concept than do the other two groups.

There is another observation that is not remarkable from a scientific point of view but is of interest in the tacit domain. The computer output showed that "residential placement" correlated with low self-concept whereas "school only placement" correlated with high self-concept. The problem with this result is that there were 19 students tested and 18 of them were residential placements whereas 1 was a "school only" placement and lived at home. These numbers violate scientific conclusions, but do suggest the tacit possibility that the students with a poor self-concept either had this attitude as a pre-condition of residential placement or acquired a poor self-concept as a result of residential placement. This is mentioned because the construct of self-concept is exceedingly crucial to human

development. We should be over-cautious in order to assure that we do not embark on treatment methods that induce a poor self-concept on the part of young persons. The importance of self-concept was indicated from several perspectives in this study. For example, the more the person likes his physical appearance and attributes (Variable 5), the stronger are his career involvement, independence, orientation, and compromise. Other relationships suggest that one's attitude toward one's behavior and group status is related to the strength of one's orientation toward decisivenss regarding a career.

Attending the JBRI school seemed to have a positive impact on the students' self-concepts in general, and especially, with regard to intellectual and social status.

CHAPTER III

Conclusions and Recommendations

Conclusions

The results of the first years experience with this project support the notion that the LD and ED adolescent boys studied here are ill-equipped to benefit from "hands-on" community based career development programs. A much more controlled and supportive environment appears to be the treatment of choice. Such treatment should be directed toward improving self-concept to the normal range or greater as a prerequisite to any "hands-on" program. Basic skill training in academics and social behavior is also important.

This study supports the proposition that a positive self-concept is absolutely prerequisite to success in life. A positive self-concept is defined here as a belief that one's accomplishments or potential accomplishments are of value to himself and others. Success is defined here as being self sufficient and relatively happy with one's lot in life.

Many of the recent studies in education and psychology suggest that success in life is dependent on natural ability or talent and motivation. Those who score high on both traits succeed in life and those who don't, do not succeed. A proposition that this work suggests is that a positive self-concept is probably the most basic determinant of success. Luck is also a factor to be regarded.

The students studied here neither had the ability nor the inclination to succeed in school or life. They appeared to believe that any accomplishments they might attain would be regarded by others as of little or no value. The treatment for such young people must begin with patience and determination to improve self-concept first.

Recommendations

Continuing efforts with this project should consider the following factors (U.S. Office of Career Education, 1978).

--An adequate planning period should preceed the implementation of any new program.

--The project should grow from within. Interest should be generated in advance so that the staff is amply motivated before the onset of a new program.

--Staffing is the single greatest determinant of success and social skills are, at the least, as essential as technical ones.

--Salaries budgeted for project positions should be attractive enough to attract high caliber personnel.

--After project staff have been hired, regardless of their expertise, they should have extensive common in-service experiences and training.

--Formal and informal lines of communication between staff, clients, and sponsors should be identified, established and maintained.

--A project should start small and expand on the basis of its experience rather than attempt too much too soon.

--Begin with intensive efforts toward selected goals and branch out as programs are developed and tested.

--Career education innovation must be planned and executed with caution. Plan well and build slowly.

--Plan a systematic utilization of outside consultants. Such individuals can aid project staff in generating new ideas, clarifying concepts and strategies, and providing an exchange of information.

--Efforts should be continued to develop materials which relate academic concepts to occupations which use the concepts.

--Greater emphasis should be placed on curriculum material development as a planned process rather than random discoveries.

CHAPTER IV

Statistical Analyses

A one-way analysis of variance was completed to determine if there was a significant change in the self-concept and career maturity of students who received three very different variations of pedigogical and curricular methodology to learn the same basic career material. The first method placed the learner at a level of abstraction well removed from the real world where the student could be a relatively passive observer in a protected relatively secure environment. This approach was based on use of audio-visual resources and classroom discussion regarding career activities. The second required a more active involvement in real world activity through the simulation of the world of work realities. This required greater self-control awareness and independence as the students had to actually imitate the world of work activities. The third approach was the most concrete, in which the students actually entered and learned from direct, first-hand experiences and involvement with a variety of career experiences.

A second analysis was completed to determine if there was a significant Pearson Product Moment correlation between any of the sub-scales of the Piers-Harris Self-Concept, the Career

Maturity Inventory, and the number of days on which treatment was received. This second analysis was completed for the entire sample of students, regardless of pedagogical groupings.

The final analysis was a multiple regression using all variables in the study to predict the students' levels of career maturity as described by each of the sub-scales of the Career Maturity Inventory. What follows is the result of these three analyses.

One-Way Analysis of Variance by Instructional Variation for the Piers-Harris Self Concept Scale

Table 2 presents the composite results for the analysis of variance for the Piers-Harris total score as well as the Behavior, Intellectual and School Status, Physical Appearance and Attributes, Anxiety, Popularity and Happiness, and Satisfaction Sub-Scales across the three instructional approaches. Examination of Table 2 shows that there were no significant differences in self-concept as a result of being assigned to these various instructional groups. In fact, the self-concepts of these three groups are amazingly close, and no pattern at all developed among the three groups -- one slightly higher on one sub-scale, and slightly lower on the next.

Table 2

One-Way Analysis of Variance by Instructional Variation

For the Piers-Harris Self Concept Scale

Instructional Group*	Total			Behavior			Status			Appearance			Anxiety			Popularity			Happiness		
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Count	7	6	6	7	6	6	7	6	6	7	6	6	7	6	6	7	6	6	7	6	6
Mean	53.6	55.5	53.2	10.4	10.8	9.6	10.2	10.8	10.5	8.0	8.1	9.0	9.8	9.1	9.8	9.0	7.8	8.0	7.6	7.2	8.5
S. D.	4.3	12.2	13.7	2.9	4.4	4.3	2.8	3.8	3.3	2.9	3.3	1.4	2.4	5.0	3.0	2.4	2.9	2.6	2.0	3.5	1.5
Range	46/58	36/68	34/74	6/15	2/15	3/16	7/14	4/15	6/16	5/12	2/11	7/11	7/13	1/13	5/14	4/11	3/11	5/11	4/10	0/9	6/10
F = +	.084			.063			.044			.246			.073			.374			.460		
P =	.9199			.9396			.9572			.7851			.9295			.6940			.6394		

+ No significant differences

*1 = Audio-Visual

2 = Simulation

3 = Community

One-Way Analysis of Variance by Instructional Variation for the Career Maturity Inventory

Table 3 presents the composite results for the analysis of variance for the Career Maturity Inventory total score as well as the Decisiveness, Involvement, Independence, Orientation, and Compromise Competence Sub-Scales across the three instructional approaches. Examination of Table 3 shows that although the differences among the groups were not significant at the traditional .05 level of confidence, the rather high "F values" and the consistency of the pattern of scores merits closer examination and interpretation of the results shown in this table.

Group Three, the group trained through direct involvement with community resources, consistently had the lowest scores on the Decisiveness, Involvement, and Compromise Sub-Scales of the Career Maturity Inventory and, if it was not for that group being slightly above the bottom on the other two sub-scales, would have been significant at the .10 level of confidence on the total score. Although removing these children from the real world environment did not have an impact on their career independence or orientation, it did have an impact on their career decisiveness, involvement, and compromise.

Table 3

One-Way Analysis of Variance

By Instructional Variation for the Career Maturity Inventory

Instructional Group*	Total			Decisiveness			Involvement			Independence			Orientation			Compromise		
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Count	7	6	6	7	6	6	7	6	6	7	6	6	7	6	6	7	6	6
Mean	29.7	29.0	21.6	4.7	4.2	2.7	7.2	7.7	5.2	7.3	7.8	7.5	5.8	5.2	5.3	4.1	4.2	2.8
S. D.	8.5	6.8	5.0	2.4	1.8	1.7	2.8	2.2	1.8	2.6	.7	1.4	2.7	3.0	2.3	2.1	2.1	.75
Range	18/41	22/39	13/26	2/8	1/6	0/5	2/10	4/10	2/7	4/10	7/9	5/9	3/10	2/10	2/8	2/7	2/7	2/4
F =	2.48+			1.68+			1.97+			1.151			.115			1.09		
P =	.11			.2176			.1715			.8613			.892			.3597		

*1 = Audio-Visual

2 = Simulation

3 = Community

+Significant and consistent enough difference to merit closer examination

Perhaps these students had not reached a level of maturity which supported the more active independent, self-controlled type of learning that occurs during real-world learning experiences. Perhaps they are so immature, have such erratic, shallow interests, and such a lack of awareness of self that they are incapable of dealing with the deeper and stronger interests, awareness, and self-control that is required when students are expected to learn from direct exposure to career fields. It would be most interesting to compare these results to findings for a more normal or mature group of students through a study using both an experimental and a control group. However, the results of this analysis tend to suggest that emotionally disturbed and learning disabled students learn best in more abstract environments removed from real world situations.

Pierson Product Moment Correlation Coefficients

Table 4 presents the correlation coefficients between each of the variables in the study. High correlations among subscales of the Piers-Harris Self Concept instrument or among subscales of the Career Maturity Inventory were expected and, therefore, were not deemed important for interpretation.

However, a correlation coefficient greater than .35 among all other variables was deemed significant and worthy of further interpretation. This is interpreted to mean that the one variable explains 14% or more of the variation in the other variable -- the coefficient of determination. Although this is not a great deal of variation, it was interpreted to be significant enough for further examination. The relationships interpreted as significant by this criteria have been circled in Table 4. (See Interpretation, Chapter 2.)

Examination of Table 4 shows that there is a significantly positive correlation between "school only" placement (N = 1) and total Pier-Harris score, student behavior, and student intellectual and school status. These same three variables have a significantly negative relationship to schools with residence placements. This tends to suggest that not residing at the school improves general self-concept and, more specifically, attitudes toward one's behavior, and intellectual and school status. This might be caused by attitudes the student has formed prior to residence (pre-selection) or by attitudes that develop as a result of residence.

The students' attitudes about their physical appearance and attributes seemed to be especially correlated to the students'

Table 4

Correlation Coefficients for All Variables in the Study

	Piers-Harris Self Concept							Career Maturity Inventory						
	Var 2	Var 3	Var 4	Var 5	Var 6	Var 7	Var 8	Var 16	Var 17	Var 18	Var 19	Var 20	Var 21	Var 22
Var 2	1.0000	0.8249	0.7650	0.6185	0.7959	0.6721	0.6265	0.3184	0.1920	0.2600	0.2048	0.3679	0.1191	0.3812
Var 3	0.8249	1.0000	0.6426	0.4229	0.5725	0.5625	0.7044	0.2736	0.1208	0.3704	-0.0926	0.3577	0.2420	0.0973
Var 4	0.7650	0.6426	1.0000	0.7178	0.4750	0.3705	0.5555	0.0105	-0.1153	0.1389	-0.0130	0.0086	-0.0907	0.3786
Var 5	0.6185	0.4229	0.7178	1.0000	0.5086	0.4845	0.6608	0.0123	-0.0530	0.1797	0.2549	0.1134	-0.1198	0.1833
Var 6	0.7959	0.5725	0.4750	0.5086	1.0000	0.7534	0.5792	0.3086	0.4539	0.0928	0.2163	0.4243	0.2435	0.2736
Var 7	0.6721	0.5626	0.3705	0.4845	0.7534	1.0000	0.3757	0.5033	0.4337	0.3968	0.3781	0.6210	0.2927	0.1639
Var 8	0.6265	0.7044	0.5555	0.6608	0.5792	0.3757	1.0000	0.0662	0.2006	0.2758	-0.0861	0.1552	0.0722	0.0638
Var 9	99.0000	99.0000	99.0000	99.0000	99.0000	99.0000	99.0000	99.0000	99.0000	99.0000	99.0000	99.0000	99.0000	99.0000
Var 10	-0.0375	0.0799	-0.0599	-0.1117	0.0520	0.2096	-0.0540	0.2857	0.3016	0.1729	-0.1103	0.1161	0.1749	-0.1440
Var 11	0.1004	-0.0099	0.0680	-0.0544	-0.0953	-0.1314	-0.1658	0.1885	0.0890	0.2605	0.1251	-0.0827	0.1647	0.0010
Var 12	-0.0614	-0.0730	-0.0058	0.1704	0.0413	-0.0860	0.2219	-0.4851	-0.4021	-0.4399	-0.0107	-0.0378	-0.3463	0.1484
Var 13	0.4802	0.3904	0.4206	0.2463	0.3108	0.2537	0.1274	-0.0620	-0.2152	-0.0716	0.2084	0.2362	-0.2309	0.2496
Var 14	0.4802	-0.3904	-0.4206	-0.2463	-0.3108	-0.2537	-0.1274	0.0620	0.2152	0.0716	-0.2084	-0.2362	0.2309	-0.2496
Var 15	99.0000	99.0000	99.0000	99.0000	99.0000	99.0000	99.0000	99.0000	99.0000	99.0000	99.0000	99.0000	99.0000	99.0000
Var 16	0.3184	0.2736	0.0105	0.0123	0.3086	0.5033	0.0662	1.0000	0.7200	0.7859	0.5704	0.8003	0.7378	-0.0950
Var 17	0.1920	0.1208	-0.1153	-0.0530	0.4539	0.4337	0.2006	0.7200	1.0000	0.5908	0.3966	0.5630	0.5363	-0.1823
Var 18	0.2600	0.3704	0.1389	0.1797	0.0928	0.3968	0.2758	0.7859	0.5908	1.0000	0.4512	0.5801	0.5718	-0.2239
Var 19	0.2048	-0.0926	-0.0130	0.2549	0.2163	0.3781	-0.0861	0.5704	0.3966	0.4512	1.0000	0.5923	0.1182	0.1811
Var 20	0.3679	0.3577	0.0086	0.1134	0.4243	0.6210	0.1552	0.8003	0.5630	0.5801	0.5923	1.0000	0.6286	0.0530
Var 21	0.1191	0.2420	-0.0907	-0.1198	0.2435	0.2927	0.0722	0.7378	0.5363	0.5718	0.1182	0.6286	1.0000	-0.3489
Var 22	0.3812	0.0973	0.3786	0.1833	0.2736	0.1639	0.0638	-0.0950	-0.1823	-0.2239	0.1811	0.0530	-0.3489	1.0000

( ) used to designate relationships interpreted as being significant.

total career maturity score and, especially, to their scores on the first four sub-scales of the CMI. This seems to suggest that the more the student likes his physical appearance and attributes, the stronger his career decisiveness, involvement, independence and, especially, his career orientation. It seems to suggest a rather important finding, and needs to be studied further.

There are some other rather random findings regarding the relationships between the Piers-Harris Self Concept Scale and the Career Maturity Inventory. There seems to be significant relationships between total self-concept and career orientation, attitude toward behavior and career decisiveness, attitude toward intellectual and school status and career decisiveness, and career orientation. These findings seem to suggest that one's attitude toward one's behavior and group status is related to the strength of one's orientation toward and decisiveness regarding a career.

Being at the school and in this program seemed to have a positive impact on the student's self-concept and, especially, his attitude toward his intellectual and school status.

The last finding supports the previous discovery regarding the instruction which exposed the students to career fields through direct involvement with community resources. Students exposed to the real world experiences tended to have a more negative correlation with the total Career Maturity scale, career decisiveness, and career involvement. This tends to suggest that direct involvement with community resources tended to develop much lower career maturity among these students. This supports the findings from the one-way analysis of variance. Direct involvement of emotionally disturbed and learning disabled students with community resources tends to be the worst form of career maturity education.

Multiple Regression Analysis - All Variables Used To Predict Career Maturity Scales

Tables 5 through 10 present the results of the multiple regression analysis using the Piers-Harris Self Concept Scale to explain the variation in each of the sub-scales of the Career Maturity Inventory. Examination of these tables show that the Pier-Harris sub-scales can be used to explain a low of 26% of the variance in career compromise and competency to a

Table 5

Multiple Regression Analysis Using Piers-Harris (PH) Sub-Scales

To Explain Variations in Career Maturity Total Score

Dependent variable: Variable 16 (Career Maturity Total Score)

Variable	Summary Table			
	Multiple R	R Square	Rsq Change	Simple R
Var 7	0.50334	0.25335	0.25335	0.50334
Var 5	0.56780	0.32342	0.07007	0.01235
Var 2	0.57816	0.33427	0.01085	0.31848
Var 6	0.59078	0.34902	0.01474	0.30866
Var 4	0.61171	0.37419	0.02517	0.01050
Var 3	0.61568	0.37906	0.00488	0.27366
Var 8	0.62356	0.38882	0.00976	0.06623

Table 6

Multiple Regression Analysis Using Piers-Harris Sub-Scales

To Explain Variation in Career Maturity Inventory 1 - Career Decisiveness

Dependent Variable: Variable 17 (Career Decisiveness)

Variable	Summary Table			
	Multiple R	R Square	Rsq Change	Simple R
Var 6	0.45391	0.20602	0.20603	0.45391
Var 4	0.58949	0.34749	0.14146	-0.11536
Var 7	0.60774	0.36935	0.02186	0.43376
Var 5	0.02718	0.39336	0.02401	-0.05303
Var 8	0.65267	0.42598	0.03262	0.20061
Var 3	0.70838	0.50181	0.07583	0.12085
Var 2	0.71516	0.51145	0.00964	0.19202

Table 7

Multiple Regression Analysis Using PH Sub-Scales

To Explain Variation in CMI-2 Career Involvement

Depdendent Variable: Variable 18 (Career Involvement)

Variable	Summary Table			
	Multiple R	R Square	Rsq Change	Simple R
Var 7	0.39686	0.15750	0.15750	0.39686
Var 6	0.50582	0.25586	0.09836	0.09280
Var 8	0.60446	0.36538	0.10952	0.27585
Var 5	0.62076	0.38534	0.01996	0.17972
Var 2	0.63776	0.38534	0.01996	0.17972
Var 3	0.64776	0.41959	0.01286	0.37040
Var 4	0.64925	0.42153	0.00194	0.13895

Table 8

Multiple Regression Analysis Using PH Sub-Scales

To Explain Variation in CMI 3-Career Independence

Dependent Variable: Variable 19 (Career Independence)

Variable	Summary Table			
	Multiple R	R Square	Rsq Change	Simple R
Var 7	0.37813	0.14298	0.14298	0.37813
Var 3	0.52856	0.27937	0.13639	-0.09262
Var 2	0.60627	0.36756	0.08819	0.20483
Var 6	0.64754	0.41931	0.05175	0.21637
Var 4	0.68231	0.46555	0.04624	-0.01301
Var 5	0.70109	0.49153	0.02598	0.25493

Table 9

Multiple Regression Analysis Using PH Sub-Scales

To Explain Variation in CMI 4-Career Orientation

Dependent Variable: Variable 20 (Career Orientation)

Variable	Summary Table			
	Multiple R	R Square	Rsq Change	Simple R
Var 7	0.62102	0.38566	0.38566	0.62102
Var 4	0.66525	0.44255	0.05689	0.00860
Var 3	0.68810	0.47348	0.03093	0.35777
Var 2	0.69344	0.48086	0.00738	0.36795
Var 6	0.69784	0.48699	0.00613	0.42435
Var 8	0.69868	0.48815	0.00117	0.15523

Table 10

Multiple Regression Analysis Using PH Sub-Scales

To Explain Variation in CMI 5-Career Compromise and Competence

Dependent Variable: Variable 21 (Career Compromise and Competence)

Variable	Summary Table			
	Multiple R	R Square	Rsq Change	Simple R
Var 7	0.29275	0.08570	0.08570	0.29275
Var 5	0.41856	0.17519	0.08949	-0.11982
Var 8	0.45119	0.20358	0.02838	0.07226
Var 3	0.45570	0.20766	0.00408	0.24202
Var 4	0.47072	0.22157	0.01391	-0.09070
Var 6	0.47864	0.22910	0.00752	0.24350
Var 2	0.50742	0.25748	0.02838	0.11910

rather impressive high of 51% of the variance in career decisiveness. For all but one of the career maturity scales, attitude toward one's physical appearance and attributes is the single most important self-concept sub-scale for predicting the sub-scales of the Career Maturity Inventory. However, one's attitude toward intellectual and school status is the most important predictor of career decisiveness. In general, it can be argued that the Piers-Harris Self Concept Scale explains a significant amount of the variation in career maturity.

Except for the two best PH sub-scales (study variables four and five = PH sub-scales Factor II: Intellectual and School Status, and PH Factor III: Physical Appearance and Attributes) for predicting career maturity, there do not seem to be any other sub-scales that consistently predict career maturity. All other PH sub-scales are equally important in predicting the various sub-scales of the Career Maturity Inventory. For example, some PH sub-scales may rank 2nd or 3rd as predictors of two CMI Attitude scales, yet be concurrently worst in predicting all other CMI Attitude sub-scales. Close examination of the tables reveals which PH sub-scales are more closely predictive of each of the CMI sub-scales. The results do tend to suggest that one's

self-concept is related to one's career maturity and, in fact, explains 50% or more in two CMI sub-scales, Career Decisiveness and Career Independence.

CHAPTER V

Tacit Knowledge Development

The value of this approach to knowledge development resides in the degree to which the line staff are motivated to deliberately articulate material that would otherwise remain dormant. Most people have had little or no practice with such a notion and are perhaps reluctant to explore uncertain territory. Apparently, early attempts at tacit knowledge development require much coaching and encouragement from project leadership. When discussions of material are encouraged, the result is that alternative models are being built with words. These models can then be reorganized, observed, and interpreted. For example, after the post-testing was completed, a meeting of test administers and the educational consultant was held. As result of this meeting, it was determined that the Career Maturity Inventory Competence Test was by and large incomprehensible to this sample of LD and ED students. (The reasons for this conclusion are described later in this chapter.) Accordingly, a decision was made to eliminate the CMI Competence Test from the analysis.

The CMI Attitude Scale and the Piers-Harris Self Concept Scale were regarded as appropriate to our sample and were included in the analysis. Staff perceptions of all three instruments are described later.

Next are descriptions of staff perceptions of each of the three curricular methods that were used in this study. Following these three sections is a description of a work experience innovation. This experiment was not part of the original research design, but was invented sometime during the project operations. Such mid-course additions are common to many action programs. However, we must acknowledge the possibility that the "work experience" may have contaminated the original design to some degree as it was made available to all residential students with no attempt to control the work by grouping or other experimental control. On the other hand, the work experience does have some interesting tacit qualities that the reader may judge for himself.

The following sections of this chapter are verbatim reports generated by line staff on the topics discussed above. They are reasonable "first attempts" at the development of tacit knowledge. However, this technique should be encouraged and refined in the future.

Research Instruments: Critiques by Bill Frank, Career Counselor and Group 3 Teacher

A. The Piers-Harris Children's Self Concept Scale

Generally kids were given introductory statements to the effect that this "test" was not related to grades, schoolwork, etc. Some explanation of the grant was offered but they usually become more interested in the "work" part and started asking about jobs. This scale could be administered in one sitting and typically met minimal resistance. Some kids were set off by the use of "children" in the title, but even with these there was no problem. With more than two students present at a testing, it became difficult to control comments. Typically, one student would react aloud to a particular item then see how peers would respond to him. Usually, the student would be given the test booklet to follow and answer in while I read aloud from this booklet. They were informed in advance that there were some words they might have difficulty with and could ask for definitions of words - but no interpretations of questions were offered. Almost all students needed help on at least one word.

B. Career Maturity Inventory Attitude Scale

This section was administered in relatively large groups. It was read aloud - some of the better readers went on ahead on their own. Answer Format was well received - T or F - and the item statements were short. Some kids fixated on key words, e.g., "parents know all the answers" or "kids/peers know answers"; some even picked "talk it over with counselor". About one-third of the way through the Attitude Scale, they started making comments about items being restated in different form. After this, comments, in general, became more frequent.

Difficulty with vocabulary may have made this instrument less valid than with "normal" populations. The kids used "jobs" and "occupations" interchangeably. On items requiring a conceptual distinction such as Item 61 - "I don't know whether my occupational plans are realistic" - the kids would react to a shorter range job concept rather than a long range career objective.

Administration took about 45 minutes.

C. Career Maturity Inventory Competence Test

This was the most difficult instrument to administer. Each section was usually administered separately and to a group of students. The first time through we presented the sections in

order. Later on we presented them as 1, 2, 3, 5, and 4. We found we could present one section in the morning and one in the afternoon if the schedule permitted. Each section took 20 - 30 minutes to complete. This instrument requires a longer start up time than the others due to resistance - usually demonstrated through comments. This resistance increased with each ensuing section so that it was greatest during the last section. However, the kids worked through the item more quickly. It was felt that they were not responding to content of the items at all. They had considerable difficulty with understanding Section Four. The responses made were too far removed from the question.

Again, vocabulary made many items difficult to understand, answer, or both. Thirty-two words and phrases absent from the vocabulary of the sample were identified in Part I and Part II of the Competence Test. (See word list.) Typically, students responded to only part of the information presented in the body of the question such as in Section One. In Section Two and Three, almost every response set had at least one item they did not know. In all sections, it was believed that there were too many choices for these kids. It was observed in several cases that kids were marking their answer sheets randomly, e.g., they were not on the item being read aloud and their booklets did not

correspond to the section or item being answered. Examples of words found in Parts I and II of the Career Maturity Inventory that were not in the vocabularly of the subject tested are:

Accountant
Agricultural Engineer
Bank Teller
Cabinet-making
Conserve
Consumer Canvasser
Ecology
Environment
Homemaker
Hospital Administrator
Instrument Assembler
Interior Decorator
Medical Technologist
Merchant Mariner
Optician
Optometrist
Physician
Psychologist
Public Relations Director
Rigger
Roustabout
Social Ability
"Social Lion"
Statistician
Systems Analyst
Tool and Die-Maker
Upholsterer
Vendor
X-Ray Technician

Staff Perceptions of Curricular Methods

A. Group 1: Audio-Visual Concentration by Jean Cloud, Teacher

Advantages

1. Multisensory approach particularly good for LD kids and those with weak reading skills.
2. Packaged materials have good suggestions for discussion and additional activities.
3. Same skills approached from various viewpoints with wide scope of materials available.

Disadvantages

1. Many materials beyond comprehension.
2. Passive involvement of watching was tiring without using other classroom methods.
3. Expensive initially until materials accumulated.
4. Delay in materials available initially.

Classroom Evaluation: Experienced difficulties in following a week's lesson plans because of unpredictable behavior; few boys maintaining appropriate control and participation for entire week's lesson.

Changing class population presented opportunities to go back and review previous skill; however, new class members took from four to six weeks to become adequately involved.

Major emphasis was A-V, but without using other techniques such as role playing, discussions, etc., students lost interest.

Students aware of other modules and at times were annoyed that they didn't always go off grounds or have a class business.

Although few are ready to enter world of work - most acquired some knowledge of type of jobs, interview behavior, how to fill out an application (this unit helped a 16 year old learn to spell his middle name) and reading the want ads.

Better attention with filmstrips and cassette as opposed to cassettes and worksheets.

B. Group 2: Group Process Concentration by Kevin T. Knoop Teacher

Since the last report, the class has been involved in a class business which has been a car wash. This was the result of much discussion between the students and the teachers using a group process approach. This approach proved useful in allowing the teachers to direct the responsibility, the problem solving, decision-making and planning to the students. It was very obvious from the start that most of the students didn't have the skills to function in work settings when they had to interact with their peers. Many arguments, a few fights, and students walking off the job were obvious problems the group had to deal with. A

considerable amount of time was spent coaching and rehearsing students on how to get out of an argument with a peer on the job. This was shown to be effective on subsequent car washes as arguments decreased in frequency, intensity, and duration. Students were able to work in the car wash without any arguments for the last few weeks of the class. During this time, more attention was focused on decision-making, evaluation, and problem solving in group meetings. At the end of the module, the students were asked if they had gained anything from the experience. Almost all remarked that they felt they now knew how to get along with others on the job. Most expressed interest in continuing with a class business and made suggestions as to what they would like to do. Apparently the group process approach to problem solving along with the actual "hands-on" experience allowed these students to develop skills they didn't have when they started. I feel that this combination was crucial to their success.

C. Group 3: Community Experience Concentration
by Bill Frank, Teacher/Counselor

The community experience group started with an initial basic structure of following six occupation categories. While this helped the instructor organize material, the students did

not relate well to it. Gradually the class was restructured to be task oriented. Generally on Mondays the newspaper was reviewed. A career column from the previous Thursday, Sunday's business page, current classified or other relevant articles were used. Tuesdays and Thursdays were for field trips. Wednesdays and Fridays usually covered discussion of field trips, and analyzing the jobs observed according to individual reactions toward duties, setting, pay, etc. In addition, the concept of a job market was repeatedly presented as a means of structuring observations. Students were encouraged to see themselves as selling three basic commodities: time, knowledge, and skill. Employers were seen in terms of buying the same three commodities.

Students readily perceived that if they didn't have the knowledge or skills required for a particular job, they could find an entry level position which usually emphasized little more than the time variable. This was one commodity they all had and thus allowed for a more optimistic view. They started talking more in terms of "helper" or "assistant" positions as a means of learning the trade. The concept also allowed them to view their abilities more realistically. Some ability or skill, when added to their time, created a more favorable impression

than when these qualities were viewed separately and compared to the jobs they were considering. Thus, when examining what they felt the employer would be "buying", that they could offer more than what the basic entry level position required instead of less than their job objective demanded, left them less frustrated. With this orientation, students asked more about training during their field trips. Since good social skills were seen also as a marketable commodity, public and classroom behavior improved. Students attended more closely to employee behavior at job sites.

Paper/pencil tasks and vocabulary, particularly tasks such as filling out applications, gained importance when seen as saleable qualities rather than a classroom exercise. All students could complete an application at the termination of the module. All had increased their basic occupational vocabulary. Although few remembered the more specific terminology, they recognized terms when reintroduced. Students' questions on field trips became more relevant. They asked about the starting salary for the work site or for a position rather than asking what a particular person made. They began asking how a person entered the field, the kind of training required, and the availability of jobs. The students began to interact among

themselves spontaneously about jobs rather than argue over who would get the most comfortable chair in the classroom.

The Work Experience By Bill Frank, Teacher/Counselor

The work experience program was an extension and expansion of an existing job program. Boys in residence are paid allowances and expected to do routine housekeeping chores. Beyond these basic duties, there was available some basically unstructured work which was carried out with varying degrees of supervision. The work program redefined the tasks into three types of on-grounds work. The concept of chores remained. Every boy in residence was expected to select one from a list of chores. This was a daily chore which he held for a week. Payment of an allowance from the school funds was based on his doing or not doing the chore. The second category of work was called dorm work. This was non-contingent on behavior in residence or school and employment was supervised by and assigned by dormitory staff. A standard wage rate was paid from school funds. Time was monitored haphazardly and generally rounded off to the nearest half-hour. No application, interview, or formal evaluation procedure was used, nor was there a regular work schedule. Often jobs consisted of undone or unselected chores. On occasion, special tasks were needed to be done and at these times

work was plentiful. At other times, there may have been no work available or no staff available to supervise.

The third type of work was called grant jobs. Some of these positions were newly created while others were existing dorm or school jobs which were restructured. Eight different job descriptions were developed from the Dictionary of Occupational Titles. Fourteen regular positions were created plus additional positions as substitutes. The basic criteria for a grant position being established was that the work simulated a real life job; that there existed opportunity for a regular and consistant schedule; that individual attention and supervision was available; and the position held enough interest or status so that students would be motivated to work by more elements than money alone.

Job openings were posted in various locations around the grounds. Students had to submit an application, be interviewed, and sign a contract before being employed. In addition, students had to maintain on a daily basis minimum academic and behavioral standards to be permitted to work. This was to avoid students acting up all day until time for work, then getting the status or reward of the job. In addition, it was repeatedly emphasized that job placement was part of the total academic and social skill program.

Time was kept by a variety of methods. One job was a salaried position in which the time needed to do a number of tasks during the week was estimated. Most jobs required that the student punch in and out on a standard time clock and payroll card system. Some students kept individual time sheets. During the weekly payday, the hours and wages were gone over individually with each student. Students who did not actually become involved in work experience placement were given incentive and experience by having them clock in and out in post-test sessions. They were then paid for the time.

All total, twenty students put in 556.5 hours during 93 weeks. Individual students' hours ranged from 1 1/4 hours to 104 3/4 hours. Length of employment ranged from one day to 15 weeks.

Counseling: Students were counseled upon application, while on the job, at payday, or if they quit. Students had the most difficulty with absenteeism. The next most frequent area of difficulty was off task behaviors. They tended to become involved in activities other than their work assignment. This usually happened in the residence halls where they would try to play pool or listen to the stereo rather than clean, cook, or wash.

Some counseling related to career goals. Those who had set career goals or who were willing to do so usually resisted any effort to evaluate these goals in terms of aptitudes or abilities. The choices tended to be heavily value-laden and, typically, with the twin values of status and money. Occupational information and awareness tended to be haphazardly gained. The students tended to be interested in work that they had seen on TV, that their friends did, or that relatives performed. With most students, this was a job orientation rather than career or occupational orientation. Thus, the students had little concept of job advancement, experience and training, or other career development concepts. Typically comments from students relating to entering a career field began with, "All you have to do is . . . ", or "You just . . . ", or even, "It's simple to get a job as a . . . ".

Students responded well to group guidance. Those who had no plans generally showed interest in or reacted to occupations discussed. The few who had career plans showed interest in the basic information about such things as age limits, training needed, and how it is obtained; information which was missing from their plans. Most did not have a framework to incorporate the occupational information into their thinking; however, this

group would, according to their individual interest, selectively attend to the discussion. Thus, some would question about a worker's duties, some would ask more about the product or service, another would want to know how to get trained. Students would often present their view or understanding of the topic for comparison, and, if the difference between reality and perception was not too great, they would expand their viewpoint.

With each other the students were much more aggressive. They did not hesitate to point out to others weaknesses, inabilities, faults, etc., as they related to a job. The concept of aptitude and ability was usually introduced at this time to generalize to conversation and prevent complete deterioration of a group discussion.

Individually, a student would seek out the career counselor on an informal basis to discuss job learner information in general, and at times, as it specifically related to his plan. When such sessions were initiated by counselor, they were ineffective. When they were initiated by the student, the discussions appeared to be quite effective.

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